

UK Biobank

Selection criteria and timelines of first repeat imaging

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Information about selection criteria for the UK Biobank repeat imaging visits

Aim

The aim of this short document is to describe the different selection criteria used to invite participants who have already attended an imaging assessment to attend a second visit.

Background

Due to changes necessitated by the COVID-19 pandemic, recruitment for the first repeat imaging appointments (i.e. data contained in `ins_index = 3` using [instancing 2](#)) was subject to different selection criteria over different “phases.” This brief document details the selection criteria and timing of the different recruitment phases of these first repeat imaging appointments. If researchers are interested in selecting participants associated with a particular phase, they can do so by restricting the data by assessment date ([Data-Field 53](#)) using the non-overlapping time periods detailed in Table 1 (page 3).

Selection criteria of first repeat imaging “phases”

The core selection criteria used to invite participants to a first repeat imaging appointment across all “phases” were:

1. Participant able to return to same assessment centre as first imaging assessment;
2. No incidental findings were identified from their scans taken at the baseline imaging assessment (`ins_index = 2`);
3. Participant has a valid email address;
4. Participant has not withdrawn from the UK Biobank study.

Additional selection criteria that were specific to different phases of first repeat imaging recruitment, were:

Phase 1 - a two-year repeat imaging study funded by Dementias Platform UK (DPUK):

- Participant available for first repeat imaging within 24 to 27 months of their first imaging assessment;
- Participant’s baseline assessment included the acquisition of high-quality brain scans, as denoted by volume of grey matter ([DF 25006](#)) and/or volume of brain, grey & white matter ([DF 25009](#)).

Phase 2 - COVID-19 case-control re-imaging study:

- Participant had attended an imaging assessment prior to the pandemic;
- Participant was living in close proximity to Cheadle, Newcastle or Reading imaging clinics;
- Participant’s baseline assessment included the acquisition of high-quality scans, using [DF 25733](#) as a proxy. However, there are a small number of participants in the study who will not have data in this field, as this eligibility criterion was introduced shortly after the study commenced.

More details about the identification of cases and controls for this study are contained in [Resource 2120](#).

NB. Research output using the repeat imaging data collected from 2019-2022 (and which includes the COVID-19 repeat imaging data) should include an acknowledgement that funding for this work was provided by Dementias Platform UK (DPUK).

Phase 3 - repeat imaging study funded by MRC, Calico and CZI

- No additional selection criteria.

Timing of phases of first repeat imaging

Table 1: Timing of the different phases of first repeat imaging

| Phase | Time period | Details | How to select phase-specific data |
|-------|-----------------------|--|---|
| 1 | May 2019 – March 2020 | 3208 participants attended first repeat imaging appointments during this time period as part of a project to collect 2-year follow-up imaging data on a subsample of the ~50k who completed baseline imaging. The average length of follow-up was 27 months (SD 1.4). | ins_index = 3 AND data-field 53 <31/3/2020 |
| | March 2020 | Closure of imaging assessment centres in March 2020 due to the COVID-19 pandemic | |
| 2 | Feb 2021 – March 2022 | 2097 participants attended first repeat imaging appointments as part of a COVID-19 re-imaging study (see DF 41000 and DF 41001). | ins_index = 3 AND data-field 53 >31/01/2021 AND data-field 53 <01/04/2022 |
| | March 2022 | Imaging assessment centres restarted baseline imaging following the end of the COVID-19 re-imaging study. | |
| 3 | Jan 2023 – 2028/9 | First repeat imaging appointments are underway. These will have variable follow-up times from the baseline appointment, unlike the original repeat scans that were constrained to 2-years' follow-up. | ins_index = 3 AND data-field 53 >31/12/2022 |